

Tacit Knowledge Flows and Institutional Theory: Accelerating Acculturation

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Abstract

Knowledge is key to sustainable competitive advantage, but different kinds of knowledge affect competitive advantage differently. This applies especially to the environment of increasing globalization. Because cultural knowledge is deeply rooted and highly tacit, its flows are critical to global enterprise performance, but tacit knowledge clumps noticeably and is known well to flow both slowly and narrowly. Such clumping and flowing are exacerbated when knowledge is required to flow across cultures. Unfortunately, knowledge management theory on intercultural knowledge flows remains limited. Alternatively, Institutional Theory provides an effective lens, and recent research to integrate it with Knowledge Flow Theory provides a powerful, new theoretical framework for understanding how tacit knowledge flows across cultures. However, the specifics of any particular, intercultural flow are likely to be critical, highlighting the need for immersive, qualitative research to identify techniques to accelerate acculturation. This study undertakes such qualitative fieldwork and informs theory and practice alike.

1. Introduction

Knowledge is key to sustainable competitive advantage [4,8,19]. Knowledge enables effective action; effective action drives superior performance; and superior performance supports competitive advantage (see [12, ch. 1]). However, knowledge does not represent a single, monolithic concept [14]. Different kinds of knowledge (e.g., tacit, explicit, individual, group, created, applied) have different properties and behaviors and hence affect action, performance and competitive advantage differently [11]. In particular, although explicit knowledge (see [15]) can provide a basis for competitive advantage [8], such advantage is likely to be ephemeral. Unless explicit knowledge can be kept secret, competitors are likely to acquire it, to imitate the knowledge-based actions that enable performance superiority, and hence eliminate any competitive advantage based upon such knowledge [5]. Alternatively, tacit knowledge is more appropriable than explicit knowledge is; hence the

knowledge-based actions that it enables are more difficult for competitors to imitate. Speaking generally, the more explicit that knowledge becomes, the lower its competitive potential becomes [17].

This applies especially to the current competitive environment of increasing globalization. Organizations from around the world compete actively now, across numerous, diverse markets, and in a multitude of domains. In some cases, knowledge is highly explicit and held broadly (e.g., articulated expressly via work rules, safety regulations and enforcement mechanisms), whereas in others, it is tacit and situated (e.g., understood only through direct experience with city officials, regional workers and the local population; see [10]). Although numerous actions required for effective global competition are based upon explicit knowledge (e.g., international law, canonical engineering practice, specialized computer systems), the more embedded that an organization becomes within a particular cultural context (e.g., foreign country, different organization, unfamiliar religion), the more critical that situated, tacit knowledge (e.g., how to compete in local markets, how to motivate influential leaders, how to perform effectively in multicultural project teams) becomes [16]. Said differently, where an organization interacts at the boundaries or edges of a particular culture, explicit knowledge may enable appropriate actions often, but where such organization seeks to integrate its activities with those embedded within this culture, explicit knowledge becomes inadequate, and tacit knowledge becomes essential.

As global organizations engage in increasing levels of intercultural interaction—across continents, nations, organizations, races, religions, norms and customs—intercultural differences impede knowledge flows disproportionately. The sets of norms and beliefs that are taken for granted largely within a monocultural setting—and which give rise to institutional regularity and predictability within such cultural setting—can become sources of conflict and uncertainty in multicultural contexts. Because knowledge enables effective action, one must *know* such norms and beliefs in order to act appropriately and hence to compete effectively. Indeed, failure to conform to the requisite

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norms and beliefs can degrade competitive performance immediately.

Because cultural knowledge is deeply rooted and highly tacit, its flows are critical to global enterprise performance and can enable sustainable competitive advantage [11]. However, knowledge—particularly tacit knowledge—clumps noticeably and is known well to flow both slowly and narrowly [12]. Such clumping and flowing are exacerbated when knowledge is required to flow across cultures. Unfortunately, the sets of knowledge management (KM) theory on intercultural knowledge flows remains limited [12].

Alternatively, Institutional theory (e.g., see [18]) and institutional analysis (e.g., see [3]) provide an effective lens to elucidate important intercultural aspects of globalization. Such aspects include insight into interactions between rules, norms and beliefs, as well as mechanisms for inducing intercultural change. Institutional insights and mechanisms can be very helpful with understanding intercultural interaction, and recent research to integrate Institutional Theory with Knowledge Flow Theory provides a powerful, new theoretical framework for understanding how tacit knowledge flows across cultures [13].

However, the specifics of any particular, intercultural flow are likely to be critical. Every culture is unique in many respects, and any pairwise intercultural knowledge flow is likely to require unique, idiosyncratic techniques. This highlights the need for immersive, qualitative research to identify techniques to accelerate acculturation across a specific cultural divide. Nonetheless, through grounded theory building, such qualitative research also offers promise in terms of discovering knowledge flow regularities that may exist—and persist—across different acculturation paths (i.e., between different pairwise intercultural exchanges). The research question is, how can tacit knowledge flows required for acculturation be accelerated across organizational cultures?

This study undertakes such qualitative fieldwork through a combination of grounded theory building [7] and multiple case study [21]. Through immersive fieldwork to understand acculturation across multiple, related yet distinct organizational cultures, we develop both specific knowledge regarding tacit flows required for acculturation in each case as well as knowledge about accelerating acculturation more generally. Results of this investigation serve to inform theory and practice alike.

2. Background

In this section we summarize the essential theoretical background associated with Institutional Theory, highlighting its key, paradigmatic concepts and perspectives, and we discuss its recent integration

with Knowledge Flow Theory. We refer the interested reader to [12] for reference.

2.1. Institutional theory

As Campbell [3, p. 1] summarizes: “Institutions are the foundation of social life. They consist of formal and informal rules, monitoring and enforcement mechanisms, and systems of meaning that define the context within which individuals, corporations, labor unions, nation-states, and other organizations operate and interact with each other.” A more succinct definition [10] contains the same, key ideas: “a set of rules, norms and values that help generate a regularity of behavior.” Institutions promote some organizational decisions and behaviors, and they constrain others, through various, path-dependent processes [3, p. 65]. As such, Institutional theory is more fundamental than Organization Theory is—with institutions serving as *carriers* of organizations [18]—hence it provides deep insights into organizing and informs a great variety of organizational arrangements, including those in global, multicultural contexts.

Scott [18, p. 51] characterizes institutions in terms of three “pillars”: 1) regulative, 2) normative and 3) cultural-cognitive. Briefly, regulative processes center on rule-setting, monitoring and sanctioning activities, with national laws, inspection routines, police and courts—along with organizational counterparts such as workplace rules, monitoring scripts and incentives—playing primary roles in our context of global competition. Through this institutional approach, the basis of regular behavior stems from imposition, acceptance and enforcement of rules, laws and sanctions. Coercive mechanisms govern institutional behaviors, and the basis of legitimacy rests upon legally sanctioned actions. International definitions of “war crimes,” corporate rules for dismissing employees, and “quiet time” rules within housing communities provide contemporary examples across several units of analysis.

Normative processes center on values and norms that provide bases for prescription, evaluation and obligation in terms of decisions and behaviors. People within some kind of collectivity (e.g., nation-state, organization, culture, religion, family) share a common set of goals (e.g., world domination, profit maximization, ethnic discrimination, salvation, education) and acceptable means (e.g., non-nuclear warfare, bogus accounting, repression, evangelism, private schools) to pursue them. Through this institutional approach, the basis of regular behavior stems from broad social agreement—often implicit—on what binding expectations apply to members of the collectivity. Normative mechanisms govern

institutional behaviors, and the basis of legitimacy rests upon morally governed behaviors. National conventions for “acceptable” warfare practices, corporate promotion of lifetime employment, and mutual consideration of neighbors provide contemporary examples across several units of analysis.

Cultural-cognitive processes center on shared conceptions of social reality and frames for meaning. People within some kind of collectivity share a common set of beliefs (e.g., their nation is suited to rule the world; their organization offers the best products; their ethnic culture is superior to another; their religion offers “truth”; their children deserve the best education possible). Through this institutional approach, the basis of regular behavior stems from shared beliefs and taken-for-granted modes of behavior. Mimetic mechanisms govern institutional behaviors, and the basis of legitimacy rests upon comprehensible, culturally supported behaviors. Broad perception that war represents a way of life, that lifetime employment should be expected, and that late-night parties are unacceptable provide contemporary examples across several units of analysis.

Clearly these three institutional pillars interact, sometimes in mutually reinforcing, sometimes in mutually opposing ways. Where a set of new laws, rules or regulations, for instance, conflicts with the values and norms shared by a collectivity of affected people, or where they violate people’s beliefs regarding appropriate decisions and behaviors, such people may be reluctant to accept or abide by such laws, rules or regulations. Where organizational change, for instance, is desired, one must look to address all three pillars—*together*—as an integrated change program. Where cultural integration, as another instance, is expected, one must consider how regulatory, normative and cultural-cognitive aspects of such integration will be affected. Where one is interested in promoting multicultural knowledge flows, as a third instance, one should examine how the rules, norms and beliefs of the associated collectivities and people would be affected.

2.2. Institutional Knowledge Flows

Drawing from [13] we illustrate the recent integration of Institutional Theory with Knowledge Flow Theory [12] to develop a framework for understanding institutional knowledge flows. First, recall the three institutional pillars described in the previous section: regulative, normative and cultural-cognitive. Each addresses a different but interrelated aspect of institutional processes. For instance, regulative processes center on rule-setting, monitoring

and sanctioning activities. In a roughly hewn characterization, the associated rules, scripts and sanctions tend to be articulated expressly (e.g., via laws, regulations, enforcement charters, and legal judgments), distributed broadly (esp. via books), and sanctioned legally (i.e., through established authority). In terms of the knowledge corresponding to such rules, scripts and sanctions, it is largely explicit.

As such, one would expect for explicit, regulative knowledge to flow broadly and quickly but to be relatively diluted with respect to the tacit knowledge possessed by regulative actors (e.g., lawmakers, policy makers, executives, police, judges) [12]. Hence one would anticipate that both formalization (e.g., writing laws and regulations) and internalization (e.g., abiding by laws and regulations) regulative knowledge would involve comparatively slower and narrower knowledge flows [15].

In some contrast with the regulative pillar, normative processes center on values and norms that provide bases for prescription, evaluation and obligation in terms of decisions and behaviors. In a roughly hewn characterization, the associated goals and acceptable means of achieving them tend not to be articulated expressly. Notwithstanding codes of conduct, codes of ethics, codes of best practices, and like formalizations of norms—which make explicit only a tiny fraction—the great majority of values and norms governing collectives are not formalized as such. Rather, they tend to be internalized via established organizational routines and the scripts that people act out through their daily lives, the “codes” of which many people would find difficult to articulate. Moreover, although such routines and scripts may be observed and practiced broadly, few are sanctioned legally. Rather, they tend to emerge, adapt and persist over time through long-term, path-dependent processes. In terms of the knowledge corresponding to normative routines and scripts, it is largely tacit.

As such, one would expect for normative knowledge to flow narrowly and slowly but to be very rich with respect to enabling actions by normative actors (e.g., the people embedded within a particular collectivity). Hence one would anticipate that both sharing (e.g., teaching culture to others) and applying (e.g., learning to demonstrate cultural norms and values) normative knowledge would involve comparatively slower and narrower knowledge flows than those ascribed to regulative knowledge flows above [12].

In even greater contrast with the regulative pillar, cultural-cognitive processes center on shared conceptions of social reality and frames of meaning. In a roughly hewn characterization, the associated beliefs tend not to be articulated at all. Notwithstanding

corporate value statements, religious scriptures, cultural folklore, and like formalizations of beliefs—which make explicit only a tiny fraction—the great majority of beliefs held within collectives are not formalized as such. Rather, they tend to be learned and reinforced via a complex, subjective, social construction process that people employ—unconsciously for the most part—through their everyday interactions with the world around them, the “beliefs” of which many people would find difficult to articulate. Moreover, in contrast to the normative pillar, such beliefs may not be shared broadly, and aside from religious orders, few are sanctioned even quasi-legally. Rather, individual people develop their own belief systems, and to the extent that they are even aware of such belief systems, the sharing of them with others is often through actions (e.g., a man mistreats a particular group of people) as opposed to explicit articulation (e.g., a man declares that he feels superior to a particular group of people). In terms of the knowledge corresponding to cultural-cognitive beliefs, it is highly tacit.

As such, one would expect for cultural-cognitive knowledge to flow exceptionally narrowly and slowly but to be extremely rich with respect to enabling actions by cultural-cognitive actors (e.g., individual people and groups who share common beliefs). Hence one would anticipate that both understanding (e.g., becoming conscious of what one believes implicitly) and sharing (e.g., exchanging descriptions of beliefs with others) cultural-cognitive knowledge would involve much slower and narrower knowledge flows than those ascribed to regulative knowledge flows above, and comparatively slower and narrower than those ascribed to normative knowledge flows.

With this, we can characterize the interwoven theoretical concepts along the kind of knowledge flow continuum summarized in Table 1. The first column includes the institutional characteristic or dimension of interest, and the other three columns summarize dimensional values for the three institutional pillars. The first group of three characteristics is institutional in nature, deriving directly from our description of Institution Theory above (and borrowing heavily from [18]). *Center* refers to the principal focus of each pillar. For instance, we note above that regulative processes center on rule-setting, monitoring and sanctioning activities. For parsimony in the table, we focus on the rules, which represent the primary focus of such regulative activities. *Regularization* combines aspects of the basis of acceptable behavior in an institution and the mechanisms that govern institutional behaviors. For instance, we note above that the regulative basis of acceptable behavior stems from imposition, acceptance and enforcement of rules, laws and sanctions and that

coercive mechanisms govern institutional behaviors. For parsimony in the table, we focus on coercion, which represent the primary tool to regulate prescribed institutional behavior. *Legitimacy* refers to the basis through which prescribed institutional behaviors become accepted within a collectivity. For instance, we note above that the regulative basis of legitimacy rests upon legally sanctioned actions. Table entries for the normative and cultural-cognitive pillars follow accordingly from our description above.

Table 1 Knowledge Flow and Institutional Pillars

Characteristic	Regulative	Normative	Cultural
<i>Institutional</i>			
Center	Rules	Norms	Beliefs
Regularization	Coercion	Social agreement	Shared beliefs
Legitimacy	Legal sanction	Moral behavior	Cultural behavior
<i>Epistemological</i>			
Explicitness	Highly explicit	Largely tacit	Highly tacit
Reach	Broad: org/field	Moderate: Group/org	Narrow: Individual /group
Flow time	Fast	Slow	Very slow

The second group of three characteristics is epistemological in nature, deriving directly from our description of institutional knowledge flows above (and borrowing heavily from [12]). The three dimensions *a) explicitness*, *b) reach* and *c) flow time* pertain, respectively, to *a*) the degree to which knowledge has been articulated (e.g., tacit: not articulated; explicit: articulated), *b*) how broadly knowledge is distributed (e.g., held by an individual, group or organization), and *c*) how quickly knowledge flows (e.g., very slowly, very quickly).

Notice how the three institutional pillars tend to vary monotonically across these epistemological dimensions. For instance, knowledge associated with the regulative pillar is the most explicit, has the broadest reach and the fastest flow time of the three. In contrast, knowledge associated with the cultural-cognitive pillar is the most tacit, has the narrowest reach and the slowest flow time of the three. Knowledge associated with the normative pillar is characterized at various points in between those corresponding to its regulative and cultural-cognitive counterparts, but they tend to be closer to the latter than to the former; that is, the knowledge associated with normative institutional processes tend to be more similar to those associated with the cultural-cognitive than with regulative ones. This characterization aligns well with Campbell’s [3, ch. 1] distinction between rational choice institutionalism—which tends to focus on the regulative pillar—and organizational

institutionalism—which tends to focus on the normative and cultural-cognitive pillars—and it enhances our ability to understand intercultural knowledge flows.

3. Research Method

This study undertakes qualitative fieldwork through a combination of grounded theory building [7] and multiple case study [21] to address the research question of how tacit knowledge flows required for acculturation can be accelerated across organizational cultures. Although this investigation is informed and guided by our Institutional Theory lens, we remain quite ignorant about how tacit knowledge flows across cultures, and we lack sufficiently rich KM theory to develop hypotheses for testing. Hence we employ more of a theory building approach and follow the explicit guidance outlined by Glaser and Strauss [7]. For instance, we are very deliberate about our theoretical sampling, eager to change the course of our study to follow promising avenues that may emerge during the course of the investigation, and we maintain a rigorous practice of constant comparison along with iterative and overlapping data collection and analysis, continuing to collect and analyze data until theoretical saturation is reached. Further, we employ a combination of open and axial coding [20] to analyze the textual data of interview transcripts, and we seek to let the data speak for themselves to the greatest extent possible.

In combination with such grounded theory building, we also employ several techniques of multiple case study [21]. Indeed, theoretical sampling begins with deliberate selection of interview subjects from distinctly different fields (i.e., warfare and healthcare) and backgrounds (e.g., think tank, warship, healthcare research, practice) and proceeds through cross-case analysis. This case study technique facilitates constant comparison and helps us to generalize our findings beyond either field. Additionally, we pursue multiple data collection techniques—including archival review, semistructured interviews and participant observation—and seek to triangulate findings as prescribed for case study research [6].

In total, three military officers are selected for interviews along with two healthcare researchers and a commercial helicopter pilot. Each of these subjects has experienced the need for substantial organizational acculturation. For instance, one is a senior military officer who transited from commanding a warship—an organizational culture that values standardization and consistency—to a strategic think tank unit—a culture that values creativity and autonomy. Two others are military officers who transitioned from Navy-only

assignments to work in a Joint Task Force (JTF), the latter of which involves people from multiple military services (e.g., Army, Navy, Air Force) working together, often for the first time. As another instance, interviews also included a male PhD nurse researcher with more than 10 years of work experience and a female PhD nurse researcher with roughly twenty years' post doctoral experience, both of whom experienced dramatic cross-cultural changes between nursing practice and research. Additionally, a commercial helicopter pilot is included as well for comparison and contrast with the other subjects' backgrounds and experiences. Commercial aviation represents a tight-knit organizational culture, one that shares some similarities with the military (esp. aviation) but is distinctly commercial (e.g., service is voluntary).

In each case, interviews were conducted on a semi-structured basis, with probing and snowballing techniques, and they were recorded and transcribed, resulting in many dozens of pages of transcription documents. Documents associated with each organization were reviewed for background information as well, and two of the three authors have direct experience in the military and healthcare domains, enabling the development of *emic* insights through participant observation.

Through this immersive fieldwork to understand organizational acculturation across multiple, related yet distinct organizational cultures, we seek to develop both specific knowledge regarding tacit flows required for acculturation in each case as well as knowledge about accelerating acculturation more generally.

4. Results

Given the space constraints for this conference article, we are unable to present the kind of expansive qualitative analysis generally associated with fieldwork along these lines. This applies in particular to extended presentation of textual quotations from the interview transcripts and detailed explanation of how we progress from *in-vivo* and analytical codes to emergent themes. The interested reader is welcome to contact the authors for additional information (e.g., see [1,9]).

Nonetheless, we progress through multiple levels of data coding and qualitative analysis to develop multiple analytical codes and themes that inform us regarding acculturation across the cases as well as within them. Within the context of our Institutional Theory pillars (i.e., regulatory, normative and cultural-cognitive aspects of acculturation), we develop new and unique insights into how tacit knowledge flows required for acculturation can be accelerated.

We discuss the military cases first and then follow with their healthcare and commercial aviation counterparts, seeking to remain relatively brief until conducting integrative, cross-case analysis and theory building.

4.1. Military cases

Table 2 Military Codes & Themes

In-Vivo Codes	Analytical Codes	Emergent Themes
-Elevation and escalation of responsibility -Tip of the spear -You are not alone -Show you the ropes, help you fit in	-Management support -Peer support	-Enhanced Acculturation
-Time and place for everything -More intense, exercise leadership -Tried and tested, predictable -Believe they know the best way of doing things	-Behavior is urgency dependent -Traits that value conformity	-Impede Acculturation
-Healthy respect for each other's ideas - Fun discussing and debating ideas and concepts -Form teams dynamically on our own -Set of core values, you just don't think. Just get things done -Tried and tested, predictable, structured and orderly -Predictable and Standard set pieces, SOPs	-Environment: Nimble, Autonomous, Matrix -Environment: Specialized, Structured, Layered, Rigid Predictable	-Organization Structures
-When you walk into a different environment, of course it will be uncomfortable -Relearn everything they know and comfortable with for many years -Offer a clear vision of what it looks like and clear direction of how to get there -Assure them that it will work out is best	-Resistance to Change -Motivation to Change	-Change principles

In Table 2 we summarize a selection of first order, *in-vivo* codes that are grouped into categorizes of concepts as eight analytical codes and that help us to

generate four emergent themes: 1) enhanced acculturation, 2) impeded acculturation, 3) organization structures and 4) change principles.

The dominant theme that emerged from these military cases is that there are opposite factors that can contribute to the acceleration and deceleration of tacit knowledge flows required for acculturation. Interestingly, support from both peers and superiors and knowledge flow plays an important part in accelerating the acculturation process. In particular, flow accelerators include management and peer support, whereas decelerators include urgency, conformance and intensity. Further constant comparison across cases reveals that recognition, role models, learning and openness help to accelerate flows also, while time pressure, expectations and measurements exert the opposite influence.

4.2. Healthcare cases

In Table 3 we summarize another selection of first order, *in-vivo* codes that are grouped into categorizes of concepts as six analytical codes and that help us to generate five emergent themes: 1) authority, 2) autonomy, 3) knowledge enhancement 4) positive work environment and 5) personal satisfaction.

The same dominant theme emerged from these healthcare cases: that there are opposite factors that can contribute to the acceleration and deceleration of tacit knowledge flows required for acculturation. However, the specific factors differ from those summarized above. In particular, flow accelerators include authority and autonomy, but knowledge enhancement appears to exert the greatest influence. Unlike the military cases, in which decelerators include a different set of factors, here in the healthcare cases the *same* factors are responsible for both acceleration and deceleration, but the *directionality* reverses; that is, whereas *increased* authority, autonomy and knowledge enhancement work toward acceleration, *decreases* in such factors have the opposite effect.

Additionally, we identify a mediating concept: a positive work environment serves reflexively to increase authority, autonomy and knowledge enhancement in something of a virtuous, positive-feedback cycle; hence as the work environment becomes increasingly positive, authority, autonomy and knowledge enhancement appear to increase as well, which promotes a more positive work environment, and so forth.

Table 3 Healthcare Codes & Themes

In-Vivo Codes	Analytical Codes	Emergent Themes
-Good ideas -Share proposals -Collaborative -Community partnership -PhD RN is rare -PhD RN catches people off guard -Facilitator -IRB form still says Physician	-Benefits to Collaboration	-Authority
-My interests -My role -Selling the value -Understand value -Less autonomy RN research -More autonomy MD research -Autonomous position	-Personal Goal to Collaboration	-Autonomy
-Evidence Based Practice Committee -Evidence Based Research -Educating all levels on research	-Governance Impact	-Knowledge Enhancement
-We trust -We totally trust -Freed up -Regular pt care responsibilities -Organization is supportive of research -Supportive of education -Academic center lends itself to team approach -Research development at organization	-Hindrance to Collaboration	-Positive Work Environment
-Grants -Money golden -Unique population everyone funds -More educated RN -Educate your staff -Better data you get -increase education level for everyone	-Financial Benefits to Collaboration -Benefits for Profession	-Personal Satisfaction

4.3. Commercial aviation cases

The commercial aviation cases did not prove to be particularly rich in terms of generating additional codes and themes. Indeed, the six, *different*, analytical codes generated through analysis of these commercial aviation cases map well to the *same* five healthcare themes: 1) sense of respect maps to authority; 2) displeasure with micromanagement maps to autonomy;

3) work environment maps to knowledge enhancement; 4) knowledge and learning maps to positive work environment; and 5) both position of seniority and mission accomplished map to personal satisfaction. Such mapping to the same themes identified via the healthcare cases gives us confidence that we were reaching theoretical saturation, as negligible novel conceptualization emerges from additional data collection and analysis. Hence, following guidance from Glaser and Strauss [7], we stop collecting and analyzing data at this point.

4.4. Cross-case analysis

In looking across the military and healthcare cases, we focus our attention in particular on the themes that emerged. Following the three-stage process outlined by Nissen [11], we treat the emerging themes and interrelationships as data for further analysis.

To summarize the key interrelationships, from the military cases we find opposing forces: flow accelerators include management and peer support, along with recognition, role models, learning and openness, whereas decelerators include urgency and conformance, along with time pressure, expectations and measurements have exert opposite influence. Likewise, from the healthcare cases we find opposing directionalities: increased authority, autonomy and knowledge enhancement work toward acceleration, whereas decreases in such factors have the opposite effect; additionally, the analysis of healthcare case results in the mediating concept positive work environment. Table 4 summarizes how these cross-case themes influence the acceleration or deceleration of knowledge flows.

Table 4 Influencing Cross-Case Themes

Knowledge Flow Influence	Military Themes (Processes)	Healthcare Themes (Results)
Accelerators:	-Management support -Peer support -Recognition -Role models -Learning -Openness	Increased: -Authority -Autonomy -Knowledge enhancement *Positive environment (mediator)
Decelerators:	-Urgency -Conformance -Time pressure -Expectations -Measurements	Decreased: -Authority -Autonomy -Knowledge enhancement *Positive environment (mediator)

Several areas of integration across the cases become clear with this view. For instance, management support from the military case analysis contributes toward increased authority and autonomy in the healthcare case analysis, and along with peer support, recognition and openness, this contributes toward a positive environment as well. Also, role models and learning opportunities from the former contribute toward knowledge enhancement in the latter.

Hence we can view accelerating factors from the military cases in terms of *processes* and their healthcare counterparts in terms of *intermediate results*. For instance, management support as a process contributes toward intermediate results such as increased authority and autonomy, which contribute—along with peer support, recognition and openness—in turn toward positive environment. Likewise, the process of providing role models and learning opportunities contributes toward the knowledge enhancement result. In terms of management, such processes represent actions that can be taken to accelerate tacit knowledge flows required for organizational acculturation, and such results represent conditions to look for when assessing how well acculturation is being accelerated.

A similar logic applies to the decelerators. For instance, processes such as creating a sense of urgency, demanding conformance, exerting time pressure, insisting upon high expectations and assessing people via measurements have the effect of decreasing levels of authority, autonomy and knowledge enhancement, which in turn create a less positive environment.

This cross-case analysis also elucidates institutional aspects of how organizational acculturation can be accelerated and decelerated. For instance several regulative (e.g., management support, authority, autonomy, recognition, time pressure, expectations, measurements), normative (e.g., peer support, openness, work environment, urgency, conformance) and cultural-cognitive (e.g., learning, knowledge enhancement, role models) processes and intermediate results can be identified within the respective military and healthcare themes.

This being said, however, there is clearly considerable room for institutional interpretation. For instance, the extent to which one's pursuit of learning and knowledge enhancement represent managerial mandates (i.e., regulative), cultural expectations (i.e., normative) or personal beliefs (i.e., cultural-cognitive) remains unclear at this level of granularity. Nonetheless, Institutional Theory suggests that management would be wise to employ the regulative, normative and cultural-cognitive approaches *together* in order to accelerate organizational acculturation.

4.5. Theory building

Figure 1 summarizes a process model of accelerated organizational acculturation. The acceleration processes from above (e.g., management support, peer support, recognition) serve to increase the intermediate variables (i.e., authority, autonomy, knowledge enhancement), which in turn affect the mediator (i.e., positive work environment) and hence increase the tacit knowledge flows required to accelerate organizational acculturation. Conversely, the deceleration processes (e.g., creating a sense of urgency, demanding conformance, exerting time pressure) serve to decrease the intermediate variables (i.e., authority, autonomy, knowledge enhancement), which in turn affect the mediator (i.e., positive work environment) and hence decrease the tacit knowledge flows resulting in decelerated organizational acculturation. Notice the positive feedback between the mediator and intermediate results: increases in the positive work environment drive increases in intermediate results and vice versa; conversely, decreases in the positive work environment drive decreases in intermediate results and vice versa.

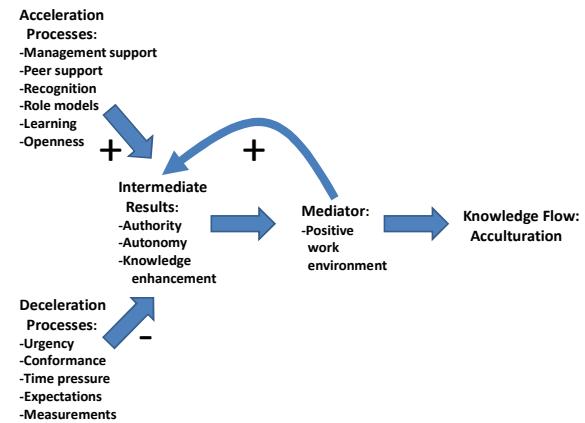


Figure 1 Process Model

An important aspect of this emerging theory pertains to the nature of its elements: all of the acceleration and deceleration processes derive directly from the interview data and reflect terms that have meaning to the subjects and relate to well-understood aspects of organization and management. For instance, management support is acknowledged widely as important for KM [2], and likewise for peer support, recognition and the other factors. This means that, by using familiar terms, the theory ties well into the extant

literature. The same applies to the intermediate results and mediator: these concepts and terms are familiar. This represents a contribution to Knowledge Flow Theory by identifying the key concepts and interrelating them in a manner that informs accelerating acculturation through tacit knowledge flows.

This aspect offers an encouraging note in terms of practice as well: since such concepts and terms are familiar in terms of the extant literature, it is very likely that they are familiar in terms of organization and management practice as well. Hence the organizational leader or manager should be able to understand readily what actions in terms of process changes to take in order to affect tacit knowledge flows and hence accelerate acculturation. This represents a contribution to KM practice. Thus we offer a contribution that informs theory and practice alike.

Additionally, as noted above, we understand well how tacit knowledge flows slowly and narrowly. We understand also how tacit knowledge flows impact the normative and cultural-cognitive aspects of institutional life. This provides some contrast to their regulatory counterpart, which gains impact principally through explicit knowledge [13]. Hence our emerging theory helps to inform Institutional Theory as well, for we gain insight into the kinds of process changes that will influence shifts in organizational norms and beliefs (i.e., affected by tacit knowledge flows) versus rules (i.e., affected by explicit knowledge flows).

Finally, the process model resulting from this theory building work offers considerable promise in terms of guiding theory testing efforts via quantitative methods. Indeed, each factor and relation delineated in Figure 1 represents a relationship that can be turned into a proposition and operationalized via hypothesis for testing. For instance, consider this relatively small subset of research propositions that emerge from the study.

Proposition 1. Increasing the level of management support in an organization will increase employees' perception of authority and autonomy.

Proposition 2. Increases in employees' perception of authority and autonomy will increase their perception of an organization as having a positive work environment.

Proposition 3. Increases in employees' perception of an organization as having a positive work environment will increase the tacit knowledge flows required for organizational acculturation.

Proposition 4. Increases in tacit knowledge flows will accelerate organizational acculturation.

Clearly others can be developed as well, and it remains now for these and like, model-based propositions to be operationalized and tested via hypotheses. Helping to guide theory testing research as such represents another contribution of this study.

5. Conclusion

Knowledge is key to sustainable competitive advantage, but different kinds of knowledge affect competitive advantage differently. This applies especially to the environment of increasing globalization. Because cultural knowledge is deeply rooted and highly tacit, its flows are critical to global enterprise performance, but tacit knowledge clumps noticeably and is known well to flow both slowly and narrowly. Such clumping and flowing are exacerbated when knowledge is required to flow across cultures. Unfortunately, knowledge management theory on intercultural knowledge flows remains limited.

Alternatively, Institutional Theory provides an effective lens, and recent research to integrate it with Knowledge Flow Theory provides a powerful, new theoretical framework for understanding how tacit knowledge flows across cultures. However, the specifics of any particular, intercultural flow are likely to be critical, highlighting the need for immersive, qualitative research to identify techniques to accelerate acculturation.

This study undertakes such qualitative fieldwork through a combination of grounded theory building and multiple case study to address the research question of how tacit knowledge flows required for acculturation can be accelerated across organizational cultures. Using multiple data collection techniques, including archival review, semistructured interviews and participant observation, we triangulate findings from across the military, healthcare and commercial aviation domains. Through this immersive fieldwork to understand acculturation across multiple, related yet distinct organizational cultures, we develop both specific knowledge regarding tacit flows required for acculturation in each case as well as knowledge about accelerating acculturation more generally.

Results include a process model that interrelates both accelerating and decelerating processes to tacit knowledge flows, as mediated by two stages of intermediate results that are linked together by a positive feedback loop. This result makes a contribution to both Knowledge Flow Theory as well as Institutional Theory, and it makes a contribution to KM practice as well as guiding theory testing research. Hence this informs theory and practice alike.

Of course every study has limitations, and this is no exception. Qualitative research is based principally upon the inductive power of individual researchers, each of which brings his or her own background and perspective to a study. This serves to limit the reliability of the study. Also, we draw from cases in only three domains (i.e., military, healthcare, commercial aviation). This serves to limit the generalizability of the study. Further, we approach this study with a strong understanding of Knowledge Flow Theory and Institutional Theory, which influences our perspective when collecting and analyzing qualitative data.

Nonetheless, qualitative research is uniquely relevant to answering the kind of "how" question posed in this investigation: the kind of challenging question that is asked generally at the beginning of research into a phenomenon and that can defeat attempts at understanding by researchers employing quantitative methods. We hope to help inform both theory and practice through this investigation, and we welcome other researchers to participate in the rich stream of follow-on theoretical and applied work generated through this study.

6. References

- [1] Aspell Adams, A., "Understanding Acceleration of Acculturation Across a Multiple-Organizational Research Collaboration," course project report, IS4710 – Qualitative Research Methods, Department of Information Sciences, US Naval Postgraduate School, Monterey, CA (June 2009).
- [2] Bashein, B.J., Markus, M.L. and Riley, P. "Preconditions for BPR Success: And How to Prevent Failures," *Information Systems Management* 11:2 (Spring 1994), pp. 7-13.
- [3] Campbell, J.L., *Institutional Change and Globalization* Princeton, NJ: Princeton University Press (2004).
- [4] Cole, R.E. "Introduction," *California Management Review* 45:3 (Spring 1998), pp. 15-21.
- [5] Dierickx, I. and Cool, K., "Asset Stock Accumulation and Sustainability of Competitive Advantage," *Management Science* 35:12 (1989), pp. 1504-1511.
- [6] Eisenhardt, K.M., "Building theories from case study research," *Academy of Management Review*, 14 (1989), pp. 532-550.
- [7] Glaser, B.G., & Strauss, A.L., *The discovery of grounded theory*. New Brunswick: Aldine Transaction (1967).
- [8] Grant, R.M., "Toward a Knowledge-Based Theory of the Firm," *Strategic Management Journal* 17 (1996), pp. 109-122.
- [9] Lee, J.G.C.Y., "Accelerating Acculturation: from Structured to Unstructured Environment in the Military," course project report, IS4710 – Qualitative Research Methods, Department of Information Sciences, US Naval Postgraduate School, Monterey, CA (June 2009).
- [10] Mahalingam, A., Levitt, R.E. and Scott, W.R., "Cultural Clashes in International Infrastructure Development Projects: Which Cultures Matter?" *Proceedings International Symposium on Procurement Systems*, Las Vegas, NV (February 2005).
- [11] Nissen, M.E., "Dynamic Knowledge Patterns to Inform Design: A Field Study of Knowledge Stocks and Flows in an Extreme Organization," *Journal of Management Information Systems* 22:3 (2006), pp. 225-263.
- [12] Nissen, M.E., *Harnessing Knowledge Dynamics: Principled Organizational Knowing & Learning* Hershey, PA: IIRM Press (2006).
- [13] Nissen, M.E., "Knowledge Management and Global Cultures: Elucidation through an Institutional Knowledge flow Perspective," *Knowledge and Process Management* 14:3 (2007), pp. 211-225.
- [14] Nissen, M.E. and Jennex, M., "Editorial Preface – Knowledge as a Multidimensional Concept: a Call for Action," *International Journal of Knowledge Management* 1:3 (2005), pp. i-v.
- [15] Nonaka, I., "A Dynamic Theory of Organizational Knowledge Creation," *Organization Science* 5:1 (1994), pp. 14-37.
- [16] Orr, R.J. and Levitt, R.E., "Embeddedness, Emergent Uncertainty and Strategies for Foreign Markets," Working Paper, Center for Research on Global Projects, Stanford University (2006).
- [17] Saviotti, P.P., "On the Dynamics of Appropriability, of Tacit and of Codified Knowledge," *Research Policy* 26 (1998), pp. 843-856.
- [18] Scott, W.R., *Institutions and Organizations* (Second Edition) Thousand Oaks, CA: Sage (2001).
- [19] Spender, J.C. "Making Knowledge the Basis of a Dynamic Theory of the Firm," *Strategic Management Journal* 17 (1996), pp. 45-62.
- [20] Strauss, A.C, and J. Corbin, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* Newbury Park, CA: Sage (1998).
- [21] Yin, R.K., *Case study research: Design and methods* (2nd ed.) Newbury Park, CA: Sage (1994).